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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,741	01/29/2001	Takatsugu Nakajima	450100-02935	1139
20999	7590	12/14/2004	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			AGGARWAL, YOGESH K	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,741

Applicant(s)

NAKAJIMA, TAKATSUGU

Examiner

Yogesh K Aggarwal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (US Patent # 4,739,495) in view of Chen et al. (US PG-PUB # 2004/0169746).

[Claim 1]

A solid-state image device (figures 1 and 2, element 12) in which solid-state image elements of N lines

in vertical direction and M pixels in horizontal direction are arranged in a matrix shape (col. 2 lines 65-68, col. 3 lines 1-3), said solid-state image device comprising display means (figure 2, element 50) for displaying a position of a defective pixel occurred in said solid-state element on a screen (col. 5 lines 18-25), position selection means (figure 2, element 52) for selecting a position of a defective pixel on a screen of said display means (col. 5 lines 25-29), the position selection means having a manual writing mode (col. 5 lines 25-29) and an automated writing mode (col. 7 lines 12-36); in said automated writing mode the position of said defective pixel is automatically determined by scanning an acquisition image acquired by said solid-state image

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device provided (Col. 7 lines 23-24 teach that the write signal can be automatically generated by a switch activated by the capping of the lens corresponding to the automatic mode while the manual mode (col. 5 lines 25-29) corresponds to the operator viewing the defective pixel, detecting the position of it and then pressing switch 54 to load the address of the defective pixel into the ROM 26) and comparing a amplitude value for each pixel with a predetermined reference level (col. 3 line 65-col. 4 line 7), memory means (figure 2, element 26) for recording positional information of a defective pixel selected by said position selection means (col. 5 lines 29-35). Levine teaches comparing the pixel amplitude level to a reference amplitude level of its neighboring pixels (col. 3 line 65-col. 4 line 7) to determine a defective pixel but fails to teach explicitly comparing a pixel luminance level to a reference luminance level to determine a defective pixel. However Chen et al. teaches a method of detecting a defective pixel based upon the luminance values generated by the pixel element and its neighboring pixels (read as reference luminance level, Paragraph 11). Therefore taking the combined teachings of Levine and Chen it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have used the method of Chen to determine a defective pixel within the system of Levine to determine a defective pixel based upon the luminance of a pixel. The benefit of doing so would be that luminance information would be easy to obtain at every pixel to compare with a reference level instead of using color signals in which a particular color of pixel needs to be identified and compared with a particular color reference pixel making the overall process of detecting defective pixels more efficient and quick.

[Claim 2]

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A solid state image device according to claim 1, wherein said position selection means has, horizontal cursor operated in vertical direction on a screen of said display means, vertical cursor operated in horizontal direction on said screen (col. 5 lines 47-52), and writing determination button (figure 2, element 54) operated so as to be pressed at an intersection of said horizontal cursor and vertical cursor (col. 5 lines 25-38).

[Claim 6]

A solid state image device according to claim 1, wherein a writing area (figures 1 and 2, element 26) from first line to the N line is assigned so as to previously write positional information of defective pixels of m pieces portion per one line, and it is performed so that positional information of a defective pixel occurred on the relevant line of said solid state image element is recorded in a writing area corresponding to the relevant line of said memory means (col. 3 lines 49-65).

[Claim 7]

A solid state image device according to claim 1, wherein defect detection means (figure 1, element 42) for detecting positional information of a defective pixel occurred on the relevant line of said solid state image element (col. 4 lines 30-42), and information writing and reading means (figure 1, element 30) for recording positional information of a defective pixel detected by said defect detection means in a writing area of said memory means corresponding to the relevant line and reading positional information from said writing area are provided (col. 4 lines 8-15).

[Claim 8]

A solid state image device according to claim 1, wherein information rewriting means for deleting positional information of a defective pixel recorded in said memory means and rewriting

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the relevant positional information is provided (col. 5 lines 3-7 figure 1 teach that the defect location memory 26 and defect amplitude memory 28 must be loaded with the defect address and defect amplitude information during the assembly of the camera. Col. 5 lines 18-38 teach that if the operator detects any defects after the previous defects have been stored these defects can be detected they can be rewritten in the corresponding memories 26 and 28).

[Claim 9]

A solid state image device according to claim 1, wherein in said defect detection means, line scanning in turn a solid state image element of N lines and M pixels and measuring luminance by respective solid state image element in a state where an incident light to said solid state image element is intercepted (col. 5 lines 20-25), comparing respective luminance by said solid state image element and reference luminance previously set, and detecting positional information of a defective pixel occurred on the relevant line corresponding to said comparative results (col. 3 lines 65-68, col. 4 lines 1-7).

[Claim 10]

A solid state image device according to claim 1, wherein as for image acquisition information of a solid state image element of a defective pixel recorded in said memory means, at least defect correction means for interpolating image acquisition information of a solid state image element of said defective pixel is provided based on image acquisition information by solid-state image elements in front and in the rear of said defective pixel (col. 3 lines 65-68, col. 4 lines 1-7)[The amplitude level of the dark current of the neighboring pixels is read as interpolating image acquisition information of the defective pixel based on pixels in front and in the rear of said defective pixel].

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[Claims 11,12,14]

These are method claims corresponding to apparatus claims 1, 2 and 6 respectively. Therefore they have been analyzed and rejected based upon claims 1, 2 and 6.

[Claim 13]

This is a method claim corresponding to apparatus claims 8 and 9. Therefore it has been analyzed and rejected based upon claims 8 and 9.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (US Patent # 4,739,495) in view of Chen et al. (US PG-PUB # 2004/0169746) as applied to claim 1 above in view of Gover et al. (US Patent # 4,833,462).

[Claim 3]

Levine teaches a horizontal and vertical cursor but fails to teach "... a horizontal cursor operated in vertical direction on a screen of said display means is displayed in white, and a vertical cursor operated in horizontal direction on said screen is displayed in red, green or blue color". However Gover teaches that these limitations are well known and used in the art (col. 1 lines 28-33).

Therefore taking the combined teachings of Levine and Gover it would have been obvious to one skilled in the art to have been motivated to incorporate a horizontal cursor operated in vertical direction on a screen of said display means is displayed in white, and a vertical cursor operated

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in horizontal direction on said screen is displayed in red, green or blue color or any other color.

The benefit of doing so would be so that the cursor will always contrast with the background whatever the color or intensity of the latter might be and therefore becomes easier for the user to identify a particular pixel as taught in Gover (col. 1 lines 31-33).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (US Patent # 4,739,495) in view of Chen et al. (US PG-PUB # 2004/0169746) as applied to claim 1 above in view of Aufrichtig et al. (US Patent # 6,661,456).

[Claim 4]

Levine teaches the position of a defective pixel to be stored in the memory means but fails to teach "... a position of a defective pixel already recorded in said memory means is lighted and displayed in red, green or blue color". However Aufrichtig et al. teaches that this limitation is well known and used in the art (col. 4 lines 4-11)[Figure 7, step 740, col. 6 lines 3-9 teach that these bad pixels can be stored in the storage unit 130]. Therefore taking the combined teachings of Levine and Aufrichtig it would have been obvious to one skilled in the art to have been motivated to incorporate wherein a position of a defective pixel already recorded in said memory means is lighted and displayed in red, green or blue color. The benefit of doing so would be to easily differentiate the pixel defects for each respective color.

Further with regards to the limitation of "a position of a defective pixel about to be recorded in said memory means from now is flickered and displayed in red, green and blue color". Official notice is taken of the fact that in order to further distinguish between a defective pixel about to be stored from a pixel which is already stored it would have been obvious to one skilled in the

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art to have been motivated to have a position of a defective pixel about to be recorded in said memory means to be flickered and displayed in red, green and blue color.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5:30PM.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA

December 9, 2004



TUAN HO
PRIMARY EXAMINER